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Notice of Allowability

Application No.

10/023,924

Examiner

KHAI TRAN

Applicant(s)

KUCHI ET AL.

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS**. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to the preliminary amendment filed 8/26/2002.
2. The allowed claim(s) is/are 1-40.
3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of
Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 12/18/01
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application (PTO-152)
6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Michael C. Stuart (Reg. 35,698) on 9/8/2005.

The application has been amended as follows:

In the Specification:

Page 10, line 15, the term "conjugate unit 110" has been changed to -- conjugate unit 120--; as set forth in line 17; line 18, the term "selective negator 120" has been changed to -- selective negator 124--.

In the Claims:

Claim 38, line 7, the term "instruction means" has been changed to – instruction--.

line 15, the term "instruction means" has been changed to – instruction--.


KHAI TRAN
PRIMARY EXAMINER

REASONS FOR ALLOWANCE

1. The preliminary amendment filed 8/26/2002 has been entered. Claims 1-40 are pending in this Office action.

Allowable Subject Matter

2. Claims 1-40 are allowed.
3. The following is an examiner's statement of reasons for allowance: none of the prior art of the record discloses or suggests a method and an apparatus for allocating transmitting devices a stream of complex symbols for transmission in parallel by the transmitting devices, the stream including replications that, for at least some of the symbols, include at least one of a complex conjugate and a negative conjugate of the symbol, the parallel transmission being temporally divided into time slots, the time slots being temporally divided into symbol periods each time slot having respective first and second portions, said method comprising: allocating the stream to the transmitting devices and to the symbol periods so that, for at least one of the slots, the symbols in at least one symbol period in the first portion of the at least one slot have at least one of complex conjugate and negative complex conjugate representations in at least one symbol period in the second portion of the at least one slot, the representations and corresponding symbols defining a non-orthogonal-based matrix having dimensions that represent transmitting devices and symbol periods, respectively, the non-orthogonal-based matrix having, as its constituents, orthogonal-based matrices as recited in claims 1, 20, and 38.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Whinnett et al (U.S. Pat. 6,317,41) disclose method and system for transmitting and receiving signals transmitted from an antenna array with transmit diversity techniques.

Foschini (U.S. Pat. 6,317,466) discloses wireless communications system having a space-time architecture employing multi-element antennas at both the transmitter and receiver

Izumi (U.S. Pat. 6,631,168) discloses generating matrices to be used for the random orthogonal transformation of blocks of data in a transmission chain.

Boariu et al (U.S. Pat. 6,865,237) B1 disclose method and system for digital signal transmission.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAY PATEL can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Primary Examiner
Art Unit 2637



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PRIMARY EXAMINER